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ABSTRACT

This document contains 7 geography lesson plans: (1) "Can You Give Me Directions to the Game?" by Tim Robison (uses Geographic Information Systems to establish directions to a place; grades 6-8); (2) "Crossing China by Sampan" by Marcie Ritchie (examines the role of geography in communication throughout China; grade 6); (3) "Indiana Tornado Project" by Carole Mayrose (researches tornadoes in Indiana; grades 9-12); (4) "A Multicultural Study: Chinese New Year" by Gloria Massey (examines the differences between Chinese New Year customs and beliefs and those of the U.S. New Year; grades K-3); (5) "Postcards across America" by Tami Hicks (uses a postcard exchange among schools throughout the United States to learn about individual states; grade 5); (6) "Where in the World Is Mr. Fultz?" by Brian Fultz (students locate a place by researching geographic clues; all grades); and (7) "A Time of Peace: Where Should the X-Men Live?" by Karen Grimes Cooper (introduces students to the use of Geographic Information Systems via census data; grades 6-8). Each lesson plan describes the purpose, lists national geography standards, explains the setup, and suggests teaching strategies. Some include on-line resources, ideas for adapting the lesson, and evaluation suggestions. (BB)

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Lafayette Geography Institute 2000

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CAN YOU GIVE ME DIRECTIONS TO THE GAME?

Tim Robison
Brown County Junior High School
Nashville, IN 47448

Topic: Using GIS to provide written and visual instructions to "away" athletic events

Estimated Time: three class sessions

Grade Level: Jr. High/Middle School

Purpose: To familiarize students with the use and capabilities of GIS.

National Geography Standards Addressed:

Standard 1: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
Standard 3: How to analyze the spatial organization of people, places, and environments on Earth's surface.
Standard 4: The physical and human characteristics of places.
Standard 11: The patterns and networks of economic interdependence on Earth's surface.
Standard 12: The processes, patterns, and functions of human settlement.
Standard 18: How to apply geography to interpret the present and plan for the future.

Indiana Social Studies Standards addressed:

WG.1.3 Use locational technology (remote sensing, Global Positioning Systems [GPS] and Geographic Information Systems [GIS]) in order to establish spatial relationships.
WG.1.5 Ask geographic questions* and obtain answers from a variety of sources, such as books, atlases, and other written materials; statistical source material; fieldwork and interviews; remote sensing; word processing; and GIS. Reach conclusions and give oral, written, graphic, and cartographic expression to conclusions.
WG.2.5 Explain that the concept of "region" has been devised by people as a way of categorizing, interpreting, and ordering complex information about the earth.
WG.6.5 Understand the relationships between changing transportation technologies and increasing urbanization. (Economics; Individuals, Society, and Culture

Objectives: Upon completion of this activity students will . . .

1. Be able to GIS for research and mapping purposes.
2. Be familiar with major thoroughfares of their region.
3. Have heightened their ability to estimate travel times by incorporating distance, mode of travel and urban congestion into the formula.

4. Be familiar with the streams/rivers of their region and the watershed in which they live. (This element is added to meet the 2001 Geography theme of "rivers."

Materials Required:

- Fall sports schedule from the school
- Computers w/internet access and printer. (Alternately, if access to computer lab is not available the lesson can be done with the class using a TVator or projector hooked up to one unit.)
- ESRI software

Procedures:

1. Have a student verbally explain to the class how to get to a particular school (choose a difficult location). Ask how many students could confidently relay that information to their parents. Another approach would be to have the student write instructions and/or draw a map on the board.

2. Using the sports schedule, survey students to see how many know the best travel route to each of the away schools. Assuming that most won't know, explain the objectives of the lesson.

3. Once internet has been accessed students should take the following steps:
   A. Go to: http://terraserver.homeadvisor.msn.com/terra_usgsdoqs.asp
   B. Type in the name and state of the town in which the school is located.
   C. Select the "Topo" map, which will show the desired location on a map with transportation routes. If necessary zoom in/out using the "+/-" key.
   D. Note the major transportation route(s), which lead into that town.
   E. Change to the "Image" map, which will display an aerial photograph of the same area.
   F. Zoom in on the aerial photograph to confirm that you have found a school (large buildings and athletic fields become apparent). Students may not successfully locate a school the first time they zoom in, but by backing out and panning directions in conjunction with the zoom feature the school can be found.
   G. Return to the "Topo" view. It will now tell you the basic location of the school (in the town, NW of the town, etc . . .
   H. Now open the Arc Explorer software. (start, programs, ESRI, Arc Explorer 2.0)
   I. Click on WWW in the upper left-hand corner.
   J. Click on "Add Theme" which is a large, bold + in the first row of tools.
   K. Under AEWeb click on USA Basemap.
   L. Drag a box on South Central Indiana. This will zoom in on the region. Continue to drag boxes on the region until Nashville and the prospective opponent's town appear.
   M. Minimize the map and open your word processor.
   N. Type out the verbal instructions to the town.
   O. Returning to the map, click on the "measure" tool (a ruler w/arrows pointing either direction). Measure the distance from the selected site to your own

school. When doing this, do not measure a straight line!! In order to get an accurate assessment of miles you will travel you must follow the path of the road. Don't forget to add this info. to your written description.
P. Return to the map. Click back on the zoom tool. This time, drag a small box on the area in which you believe the school to be located.
Q. Note the names of the streets/drives needed to traverse to reach the school from the main thoroughfare. Return to the word Processor and type those instructions

4. In keeping with this year's Geography Action theme, "Rivers," you should now name any/all rivers and major tributaries you will cross on the journey to the school.
   A. Type in the following Internet address: http://www-atlas.usgs.gov/
   B. Navigate through the links in the following manner: Atlas Maps; National Atlas Online, Interactive Map Browser; Go Straight to Map Browser; Zoom to Indiana.
   C. Once the Indiana map appears, move to the upper right quadrant of the screen and scroll down to (and select) the following three categories and features: 1) Transportation—Roads; 2) Water—Streams and Waterbodies; 3) Reference—Cities and Towns.
   D. Move to the features below the map and select The Zoom in feature ("8x."). Next, click on the area of the map where you believe Nashville should be located.
   E. The map will redraw and should display the town you are traveling to, the roads you will travel and the streams they will cross. To name those streams click the identify feature and then click on that stream on the map.

5. Repeat steps 3 and 4 for each school on the schedule.

6. Students should be encouraged to check their transportation routes while in this atlas to ensure they have chosen the most direct route.

Adaptations/Extensions:

1. Students can be placed into small groups and/or can be assigned only a certain number of schools on the schedule.

2. Students can be made responsible for finding demographic information of the schools on the schedule.
   A. Go to the following web address:
   http://ideanet.doe.state.in.us/htmls/education.html
   B. Once there students should select "Data for one School or one School Corporation in Indiana" and then type in the name of the school for which they are seeking information.
   C. Students can then select from a number of criteria. For instance, if they are interested in the size of the school against which they'll be competing they can select enrolment.
   D. Students can use information they have retrieved to create tables, data bases, charts, etc . . .

3. At the USGS Atlas page (visited in 4A) teachers can find many attractive and useful information links that can be used to expand the lesson and address other Geography standards—habitat, land use, water discharge, etc…

4. The method of presentation is left up to the teacher. One suggestion is to have groups of students work collectively to draw a regional map displaying all of the opponent schools, towns and water bodies they will visit throughout the season.

CROSSING CHINA BY SAMPAN

Marcy Ritchie

Battle Ground Middle School, Lafayette, Indiana
June 30, 2000

Grade Level: Grade 6

Purpose: The purpose of this lesson is to enable students to determine the geographic features that facilitate and prevent communication and commerce between parts of China.

1. Students use maps of China in ways that are increasingly difficult from the previous lesson.
2. Students make inferences about the ways that China's topography slows travel and communication between some parts of the country, but not others.
3. Students will "sail" and "portage" a sampan, the traditional flat-bottomed boat used in China and other Southeast Asia countries, as they travel across the country to designated cities.

(This lesson has been adapted from China, A Complete Resource, by Diana Granat and Stanlee Brimberg, Scholastic Professional Books.)

National Geography Standards:

The World in Spatial Terms:

#1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
#3. How to analyze the spatial organization of people, places, and environments on Earth's surface. Places and Regions:
#4. The physical and human characteristics of places.
Human Systems:
#11. The patterns and networks of economic interdependence on Earth's surface.
#12. The processes, patterns, and functions of human settlement.
Environment and Society:
#15. How physical systems affect human systems.
The Uses of Geography:
#18. How to apply geography to interpret the present and plan for the future.

Materials Required:

*A previous introduction to the geographic features of China.
*Two maps of China, one showing specific cities, and a topographic one (showing major

rivers, mountains, and deserts
(Suggestion: Good maps are available in the Scholastic Professional Books.)

Purpose: Upon completion of this activity, the student will be able to

1. recognize a sampan, the traditional flat-bottomed boat used in Southeast Asia,
2. find routes between cities,
3. make comparisons of the distance traveled between cities,
4. analyze the distance according to miles traveled by water and miles portaged over land,
5. contrast the routes according to difficulty of travel, and
6. infer how China's topography makes travel and communication more difficult between some cities.

Procedures:

1. Introduce the sampan as a traditional boat used for travel and shelter; propelled by one oar: containing a small living structure covered by a roof of mats. (Use photo or video segment of a sampan.)
2. Explain that the Chinese use the respected spirit of the dragon to show the importance of their rivers. They traditionally describe their rivers as dragons. The dragon's limbs are the smaller streams. They flow into the dragon's body, or Main River. The dragon's mouth is the delta, where the river flows into the sea.
3. Point out that the rivers of China may have more than one name or reference, and that the spelling of these names may vary from one publication to another.
4. Clarify that students will be working in groups that will require an explorer, a navigator, and a recorder.
5. Each group's assignment is to determine the distance traveled on four routes across China and to specify the miles traveled on land and the miles traveled by water.
6. These numbers are written on the chalkboard so a whole class assessment can be made.
7. After calculations are completed, the class discusses the results and draws conclusions. Some questions asked during this discussion may include:
   "What part of China was traveled by sampan the easiest?"
   "What part of China was traveled mostly on land?"
   "What might this comparison show about the development of China through the centuries?"

"What are the natural barriers to communication and travel in China?"
"What naturally occurring feature facilitates communication and commerce?"

8. The class composes a paragraph of conclusions.

Adaptations/Extensions:
Read about construction of the Three Gorges Dam on the Yangtze (yang see) River and the problems posed by the Yangtze (also Yangzi or Chang Jiang) River.

Evaluation Mechanism:
Rubric attached

References:
The Ancient World, Prentice Hall, 1998.
China, A Complete Resource by Diana Granat and Stanlee Brimberg, Scholastic Professional Books, 1999
Your Name_____Period_____Group No._____Date_____

Social Studies Activity: Crossing China by Sampan

Overview:

Your group will be taking four trips across China in a sampan. All the trips will begin in Harbin, in the northeast corner of China. Each of the four trips will end in different cities. You will want to stay on the water (in your sampan) as much as possible because crossing land means you have to portage, or carry, your sampan. You will record the distance you travel on land and the distance you travel by water on each of the four trips.

Job descriptions:

1. The explorer determines the shortest route between the two cities, noting whether you will have to cross a
   desert, a mountain, or any other geographical feature.
2. The navigator calculates the distances covered each time you travel on land and each time you travel on water.
3. The recorder finds the totals for land travel and water travel.
4. Everyone writes the totals on the chart.

Routes:
#1 is Harbin to Hainan Island.
#2 is Harbin to Lhasa.
#3 is Harbin to Kunming.
#4 is Harbin to Urumqi.

Materials:
Map of China with Major Cities
Map of China with Major Rivers, Mountains & Deserts

Record:	Distance sailed	Distance portaged
Route #1	_____miles	_____miles
Route #2	_____miles	_____miles
Route #3	_____miles	_____miles
Route #4	_____miles	_____miles

Now write these distances on the chalkboard (or overhead) under your group's number.

Conclusion:

Evaluation

Name_____Date_____

Student Evaluation of Quality Poor Average High

1. Cooperation and voluntary participation with my group 1 2 3
2. Completion of my job description 1 2 3
3. Neatness and clarity of written work 1 2 3

Teacher Evaluation of Quality

1. Cooperation with your group 1 2 3
2. Completion of your job description 1 2 3
3. Neatness and clarity of written work 1 2 3
4. Completion of distances for class totals 1 2 3
5. Spelling in paragraph 1 2 3
6. Sentence structure of paragraph 1 2 3
7. Content of paragraph 1 2 3

Grade: _____

INDIANA TORNADO PROJECT

Carole Mayrose
Northview High School Brazil, Indiana
June 2000

Grade Levels: 9-12

Purpose: To be aware of the number of tornadoes that hit Indiana.

National Geography Standards:

Standard 1: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information for a spatial perspective.
Standard 2: How to use mental maps to organize information about people, places, and environments in spatial context.
Standard 3: How to analyze the spatial organization of people, places, and environments on Earth's surface.
Standard 15: How physical systems affect human systems

Indiana Social Studies Academic Standards:

Standard 1: Students will use maps, globes, atlases, and grid-referenced technologies such as remote sensing. Geographic Information Systems (GIS), and Global Positioning Systems (GPS) to acquire process information about people, places, and environments.
Standard 2: Students will acquire a place-location framework for thinking geographically. They will identify the physical and human characteristics of places. They will understand that people create regions to interpret earth's complexity and that culture and experience influence people's perception of places and regions.
Standard 3: Students will acquire a framework for thinking about the earth's physical systems: earth/sun relations, climate and related ecosystems, and land forms.
Standard 4: Students will identify and analyze the human activities that shape the Earth's surface, including population numbers, distribution and growth rates, rural and urban land use, ways of making a living, culture patterns, and economic and political systems. Using grid-based technology (i.e. remote sensing and GIS) whenever possible, they will map the distribution of various human phenomena and look for spatial patterns that the maps reveal.
Standard 5. Students will analyze ways in which humans affect and affected by their physical environment.

Indiana Earth Science Standards:

Standard 1: Principles of Earth and Space Science
Students investigate, through laboratory and fieldwork, the universe, the Earth, and the processes that shape the Earth. They understand that the Earth operates as a collection of interconnected systems that may be changing or may be in equilibrium. Students connect the concepts of energy, matter, Conservation, and gravitation to the Earth, solar system, and universe. Students utilize knowledge of the materials and processes of the Earth, planets and stars in the context of the scales of time and size.

ES.I.15 Understand and describe the origin, life cycle, behavior, and prediction of weather systems.
ES.I.16 Investigate the causes of severe weather and propose appropriate safety measures that can be taken in the event of severe weather

Materials Required:

- a list of the counties in Indiana
- a county map of Indiana with the counties name
- colored pencils
- web address --- www.tornadoproject.com

Objectives:

Upon completion of this activity, the student will:

1. Be familiar with the use of GIS for research
2. Be familiar with natural phenomena in Indiana
3. Be familiar with analyzing collected information

Pre-activity work by the teacher:

Divide the number of counties by the number of students in the class.
Assign that number to each student.
Copy Indiana county maps--6 per student (one for each of the possible required points of information plus an extra).

Number and label each of the maps:

1- Total Number of Tornadoes
2- Total Number of Tornadoes in 1990's
3- Number of People Killed
4- Number of Injuries
5a- Majority # of "F scale" Tornadoes
5b- "F4 and FS" Tornadoes

Copy a list of Indiana counties. I blew up the list from a highway map.

Copy of instructions for each student.

Remind them they need colored pencils -a required item in my class.

Procedures:

Pass out list of counties.
Give them the number of counties they will be working with.
Give the students at least four of the Indiana county maps and have them number 1 through 4.
Number and label their maps, and put their name on each.
Go to computer lab and log in.
Get them to www.tornadoproject.com
Scroll to "All Tornadoes."
Scroll to "all states."
Scroll to map and click on Indiana.
Scroll to their assigned counties and begin work.
They are to color code their maps with the scale provided on the assignment sheet.
As they complete each map, go on to the next one.
For map 5a and 5b you can get 2 or more levels (F-scale) of equal numbers. If this happens divide the county into the 2 or 3 colors required and place the number with the appropriate color.

MAP INSTRUCTIONS

Adaptations/Extensions:
Indiana can easily be compared with any number of states of your choosing or the students choosing. All you need is an outline county map of any state with counties included. This map can be obtained by going to www.census.gov/, go to Tiger, scroll to "1990 State and County Outline maps." There are 55 total maps. You can print out any or all.

Find the population numbers for each of the counties affected and compare this with the total population of the state. Figuring percentages will help with ISTEP.

Figure the total population of the counties in Indiana or other state(s) that are not affected.

Evaluation Mechanism:
1. Use the completed maps and
2. Have each student present their material to class
3. Upon completion, have student compare and contrast their maps
4. All maps must be neatly labeled and carefully colored

References:
Internet websites:
http://www.tornadoproject.com
http://www.census.gov/
At census go to Tiger and click, scroll down to "1990 State and County Outline maps."
There are a total of 55 maps, you can print out anyone or all.

A Multicultural Study: Chinese New Year

By: Gloria Massey, Farrington Grove School
Terre Haute, Indiana, June 30, 2000

Grade levels: K-3, three-day lesson plan

Purpose: In this multicultural study, children will become aware that they live on one planet but their festivals and holidays vary .The customs and beliefs of the Chinese people will become real and meaningful to children as they learn about and experience the Chinese New Year.

Geography Standards:

#1 How to use maps to acquire, process, and report information from a spatial perspective
#10 The characteristics, distribution, and complexity of earth's cultural mosaics
#18 How to apply geography to interpret the present and plan for the future

Indiana Social Studies Academic Standards:
World Cultures: Students will demonstrate that people have similarities and differences and that people learn from each other in many different ways.

Materials required:

- A book on customs of the Chinese New Year. Good books are:
  Celebrating Chinese New Year by Diane Hoyt-Goldsmith, Holiday House, 1998
  Happy New Year: Kung-Hsi Fa-Ts'ai! By Demi Crown, 1997
  Gung Hay Fat Choy or Chinese New Year
- Chinese lantern: 18"x12" paper, watercolors, stapler, yellow tissue paper, crepe paper streamers
- Chinese Zodiac Chart to hang in the room
- Map of the world- wall maps and individual maps

Objectives: Upon completion of this lesson, students will be able to:

1. Locate China on a world map
2. Discuss how the Chinese New Year's celebrations compare with New Year's or other holiday activities the children do within their culture
3. Draw a picture and write a story about an animal of their choice from the Chinese Zodiac

Pre-activity information:
The Chinese New Year, also called the Spring Festive, is the most important holiday for the Chinese. The celebration begins on the first day of the lunar calendar (in mid-January or Mid-February) and lasts 15 days, beginning with New Year's Eve and ending with the lantern festival at the full moon. Since the holiday is so special, people start preparing for it ahead of time. A week before the holiday, people sweep out their homes to get rid of bad luck. People shop for new clothes and get their hair cut to begin the year with a fresh start. They also buy plants and blossoms for symbols of spring and birth, and foods like oranges for symbols of good fortune. The New Year's Day feast takes a long time to prepare. The menu for the meal is carefully planned to include many foods with special meanings. Families and friends gather together, give gifts, eat special foods, enjoy parades and watch fireworks. On the fifteenth day of the Spring Festival, the Chinese celebrate with a lantern festival. Lanterns of all shapes and sizes are hung everywhere to light the night sky.

Procedures:
Day 1- Locate China on a world map or globe. Have children color China on individual world maps. Read and discuss one of the books on customs of Chinese New Year. Have children make lanterns for the lantern festival to decorate the room. Start by using watercolors to paint Chinese motifs or an original design on 18 x 12 paper. Let dry overnight.

Day 2- Review from yesterday. Read another book on China. Put together lanterns:

1. Using the picture painted yesterday, fold paper lengthwise with the decorations out.
2. Starting at the fold, make evenly spaced cuts about 1" apart, ending where you began. Draw ending line for children if needed.
3. Open the paper and staple together the short edges.
4. Stuff middle with crumpled yellow tissue paper.
5. Staple a strip of 1 "x 6" construction paper to make the handles.
6. Add tissue paper or crepe paper streamers to bottom.
7. Hang lanterns around the room.

Day 3- Discuss the Chinese Year from the first two days. On chart paper compare how the children celebrate New Year with how the Chinese celebrate
their New Year. Read a book that explains the Chinese calendar. Have a copy of the Chinese zodiac so the children can find the animals for their birth year. The Chinese traditionally believe that people born in the year of a certain animal exhibit particular characteristics. After discussing which characteristics the animals have for the years the children were born, have the children choose one animal, draw a picture of it and

write a story about how the characteristics of that animal compares to a person born in that year.

Extensions: Have the children research other Chinese customs for the Spring Festival. What foods do the Chinese eat during the Spring Festival and why are they symbolic?

Evaluation: Have the children draw a picture and write a story about how they would celebrate if they were in China for the Spring Festival.

POSTCARDS ACROSS AMERICA

BY: Tami Hicks, Wea Ridge Elementary
Lafayette, Indiana, June 30, 2000

GRADE LEVEL: 5th grade

PURPOSE: To increase students' knowledge and awareness of the location and physical features of each of the fifty states in America.

NATIONAL GEOGRAPHY STANDARDS:

#3- How to analyze the spatial organization of people, places, and environments on Earth's surface.
#4- Understand the physical and human characteristics of a place.

(Themes: Location and Place)

MATERIALS REQUIRED:

- Postcards featuring Lafayette, Indiana, Purdue University, etc. (enough for every student)
- Stamps
- Resources for Information on Indiana (encyclopedia, trade books, Internet printouts, maps, etc.)
- Glue
- Clear packing tape
- Pins or stickers
- Wall map of the United States

OBJECTIVES:

Upon completion of this activity, students will be able to understand the relationship of the other 49 states in comparison to Indiana. Students will also be able to locate all fifty states and describe their physical features.

PRE-ACTIVITY WORK BY THE TEACHER:

The teacher will need to sign up for a postcard exchange project list via the Internet (see references). The teacher will also need to locate information on Indiana for the small group research.

PROCEDURES:

1. Divide the class into small groups of four to five students.
2. Give each group information on Indiana. Use different resources for each group to expose students to many different types of resources (in preparation for state report).
3. As a team, have each group come up with 3-5 facts about Indiana.
4. Have each group share their facts about Indiana. Compose a class list of all of the facts.
5. Distribute class lists to students. Then, using these lists, have each student type up a short paragraph about Indiana to include on their postcard. Also, have each child include in their paragraphs a request for a return postcard with information about the school that the child's postcard was sent to. After printed, have students cut out paragraphs to fit their postcards. Glue to back of postcards. Cover with packing tape to protect during mailing.
6. Distribute lists. Have each child find the state that they will be researching and locate a school from that state to mail their postcard to. Address postcards and mail.
7. As postcards start coming in, plot each state on the map using a pin or sticker. Use the cards to review map skills and begin to identify characteristics of each state in relationship to Indiana. (Examples: Which direction would we travel if we were to visit California? What is the climate like in California? What is the capital of CA? Which ocean borders CA? What states border CA?
8. Make copies of the paragraphs about Indiana. As postcards come in from other schools on the list, mail a postcard back to them. Continue collecting postcards the entire year. (Your name will also be on the mailing list and you will receive postcards from more schools than just those that you mailed postcards to.)

EXTENSIONS:

1. Give information about the project to parents. Ask them to have relatives from different parts of the U.S. send postcards with descriptions of where they live.
2. Analyze information about the number of postcards received from different regions, and different states. Make inferences about the patterns discovered. (We received lots of postcards from schools in the east, but only a few from the northwest. Why?)
3. As a partnering activity, have students create a US map in which they shade in different regions, locate and draw in the major mountains, rivers, and bordering oceans, and label each state and capital.

ASSESSMENT:

Students will take quizzes over each region of the United States. Students will have to be able to locate and identify each state and be able to spell it correctly. Students will be given bonus points if they are able to identify and correctly spell the capital of each state. A final test will be given over all fifty states.

Students will also be participating in class projects on an individual state.

At the end of the year, students will write paragraphs reflecting on what they have learned about America and which activities influenced them the most throughout the year.

INTERNET RESOURCES FOR POSTCARD EXCHANGE PROJECTS:

http://www.teachnet.com/ - 100 day Postcard Exchange, Holidays Around the World, Class 2 Class

http://www.internet-catalyst.org/ -postcard geography

Where in the World is Mr. Fultz?

By: Brian Fultz, Happy Hollow Elementary, West Lafayette, Indiana
June 30, 2000

Grade Levels: This activity is adaptable to any level.

Purpose: The purpose of this activity is to provide students with an interactive opportunity to learn more about geography and to enhance their ability to use resource materials.

National Geography Standards:
The World in Spatial Terms:

#1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
#2. How to use mental maps to organize information about people, places and environments in a spatial context.
Places and Regions:
#4. The physical and human characteristics of places.
#5. That people create regions to interpret Earth's complexity.
#6. How culture and experience influence people's perceptions of places and regions.
Physical Systems:
#7. The physical processes that shape the patterns of Earth's surface.
#8. The characteristics and spatial distribution of ecosystems on Earth's surface.
Human Systems:
#10. The characteristics, distribution, and complexity of Earth's cultural mosaic.
#11. The patterns and networks of economic interdependence on Earth's surface.
#13. How the forces of cooperation and conflict among people influence the division and control of Earth's surface.

Materials Required:

- Bulletin board or other display area for clues
- Envelopes to hold the clues
- Atlases, globes, encyclopedias, almanacs, and other resource materials

Objective: Students should be able to use maps and other geographic resources to learn about their world while problem solving.

Pre-activity work by the teacher: The teacher needs to create a display or bulletin board for this activity. The display could include pictures, envelopes with different types of stamps, and/or other geographical, historical, and cultural items. The teacher needs to pick the location of where he/she will be hiding. He/she will then need to create the clues, which students will use to find him/her.

Procedures:

1. Introduce students to the activity.
2. Explain that each week you will be hiding in a different location. One or two clues will be given each day. The last clues will be given on Thursday. Students read the clues each day and use classroom resources to narrow down where you are located. Students should write down where they think you are located and turn in their responses.
3. Do an example with the class. As you read the clues, have students brainstorm which resources may be useful. Introduce some of these resources and how they are used.
4. Start the activity with the first clue.
5. On Friday, once the answers have been collected, go over the clues with students. Discuss the resources they used to find answers and what other sources they could have used. Keep track of student progress using a chart.
6. Each week repeat the process.

Adaptations/Extensions: This activity can be adapted to the local, state, regional, national, and/or world level. It can also be used with a historical focus.

Evaluation Mechanism: Evaluation is accomplished by keeping a record or chart of the students' responses.

References: The idea for this activity originated from the popular "Where in the World is Carmen SanDiego?" Various resources are used to develop the clues.

Clue Examples for hiding in Edinburgh, Scotland

I am located somewhere between 30 degrees north latitude and 60 degrees north latitude and west of 0 degrees longitude.	The climate where I am hiding is considered to be a temperate one. Specifically, it has a humid subtropical climate.
The island, the eighth largest in the world, was covered by an ice cap thousands of years ago. The glaciers hollowed out "firths" along the coastline here. Steeply banked "lochs" were also formed.	The Romans, built the longest wall in Europe along the southern border of this country for protection against the people who lived here.
Loch Ness is a popular place to visit in this country if you are not scared of monsters, and Ben Nevis provides plenty of fun for skiers.	You will find me in this country's second largest city. Robert Louis Stevenson, author of Treasure Island, and Alexander Graham Bell, inventor of the telephone, were born here.

A TIME OF PEACE: WHERE SHOULD THE X-MEN LIVE?

Karen Grimes Cooper
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4050 East 38th Street
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June 30, 2000

Grade Level: Middle School

Purpose: To introduce students to the use of **GIS** via census data.

National Geography Standard(s):

Standard 1: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Standard 2: How to use mental maps to organize information about people, places, and environments in spatial context.

Standard 3: How to analyze the spatial organization of people, places, and environments on Earth's surface.

Standard 4: The physical and human characteristics of places.

Standard 6: How culture and experience influence people's perceptions of places and regions.

Standard 8: The characteristics and spatial distribution of ecosystems on Earth's surface.

Standard 10: The characteristics, distribution, and complexity of Earth's cultural mosaic.

Standard 12: The processes, patterns, and functions of human settlement.

Indiana Social Studies Academic Standards(s):

1. **Historical Perspectives**
   A. Identify major historical events of the Western World, Eastern World, and the United States and describe their influence in the cultures that make up the United States.

2. **Geographic Relationships**
   A. Identify cultural characteristics of regions that influence cultural development.

B. Identify the physical features that influence development.

3. **Inquiry Skills**
   A. Interpret information about societies of the Western World, the African World, the Asian World, and the United States presented in graphs, charts, maps, time lines, polls, pictures, and cartoons.
   B. Identify, evaluate, and use appropriate reference materials and technology.
   C. Prepare original written and oral reports and presentations

4. **Current Events**
   A. Research and evaluate current events that affect societies of the United States and the world.

Indianapolis Archdiocese Social Studies Standards:

1. **Historical Perspectives**
   A. Identify significant historical developments, events, personalities, and places in the community and state.

2. **World Cultures**
   A. Identify the cultural heritage of specific individuals and groups.
   B. Respect the diversity of cultural influences.

3. **Geographic Relationships**
   A. Become familiar with different kids of maps and their features.
   B. Describe major types of resources, land and water forms, climates, their distribution and relationship to the ways people live.

4. **Inquiry Skills**
   A. Use resources, including electronic and other technologies and print media, for gathering and organizing information.
   B. Interpret information presented in charts, graphs, and time lines.
   C. Use computer programs.

5. **Current Events**
   A. Predict how world events or issues may affect students and their communities.

Materials Required:

1. Atlas of the United States or any U.S. Map
2. Computer
3. Encyclopedias
4. Color pencils
5. Lesson Worksheets

6. Composition Paper
7. Blank United States Maps
8. Current AAA Tourbooks
9. Internet access or census data CD's
10. US History and World Cultures textbooks or other reference resource

Objective:

Upon completion of the activities, the student will:

1. Be familiar with the use of GIS for research
2. Be familiar with the recent United States population patterns of the following racial groups:
    a. African Americans/Blacks
    b. American Indians/Eskimos/Aleuts
    c. Asian Americans/Pacific Islanders
    d. European Americans/Whites
    e. Hispanic Americans/Latinos
3. Be familiar with historical events that influenced the population patterns of 5 racial groups (as identified by the 1990 U.S. Census) in the United States

Pre-activity:

1. Discuss the Marvel Comic Book characters called: **THE X-MEN.** You may distribute copies of the comic books; show videos of the animated television version of the show; or arrange to view the recently released video of: X-Men-The Movie (released in movie theaters in July 2000).

Procedure:

1. Briefly review the information gleaned in the pre-activity.
2. Divide the students into small groups of 2-5 people.
3. Have the groups, among themselves, read the introduction to the lesson plan.
4. Students will need to use the computers and the internet.
    A. Go to the following website: http://www.census.gov/
    B. Click on: **Access Tool**
    C. Click on: **American Fact Finder**
    D. Go to **"maps"** and click on: **Thematic Maps**
    E. Click on: **Select A Theme**
    F. Under the category: **Percent of People**, scroll down to one of the five racial groups (White; Black; American Indian/Eskimo/Aleut; Asian/Pacific Islander; Hispanic Origin), click on it.
    G. Click on: **Create A Map** then print it out.
    H. Continue the process until you have printed out a map for each of the five racial groups.

I. For Native American data go to the following website: http://www.kstrom.net/isk/maps/mapmenu.html
J. Scan down to: **"U.S. Tribes By Region & States (Big GIS Effort)"**.
K. Click on **U.S. State Native American Populations**.
L. For Native American **"gaming casino sites"** go to the following website: http://www.hanksville.org/Naresources/indices/Nagaming.html
M. For other in-text clues such as references to "Voodoo", have students use encyclopedias as a reference source.

5. Use the information from the GIS census maps and the clues given in the lesson to decide where the **X-MEN** should live.
6. Have students use the color pencils to color code the blank maps. They should color the states they chose for the X-MEN, according to the color selected to represent the racial group they will live among.
7. On a separate sheet of paper have them list the X-MEN along with the state the superheroes will live in. Students should type their final paper. Use postal abbreviations for the states.
8. Have the students give a full explanation of their reasoning for the choices they made. This should also be typed.

Adaptations:

1. Another website that can be used is the following: http://www.esri.com
   A. Click on "arc data online"
   B. Click on "site map"
   C. Under "Geographic Data", click on "US Census Demographic Data"
   D. Click on "Population Characteristics"
   E. Scroll down to one of the four racial/ethnic groups and click on it
   F. Then click "make a map".
   G. Continue until the process until you have a map for each of the four racial groups. [This site does not have statistics for **American Indian/Eskimo/Aleut**]

NOTE: Some of the map information from the two websites slightly differ.

Extensions:

One:

1. Have the students assign each of the X-Men to a specific city within their chosen state.
2. Then have students use a U.S. Road map to calculate the distances between cities where each of the X-Men live.
3. Have students use a U.S. Road map to calculate the distances from the students' home city & state to where each of the X-men live.

Two:

1. Split the class into 5 separate groups (or four). Have each group take one of the racial groups to research, using a US History text and other resource(s).
2. Students should research "historical" events that perhaps lead to the settlement of the racial group in the current geographic areas/regions of which the percentage of their population(s) is the highest.
3. Students should also use current event sources in gathering information.

Three:

1. There are several other X-MEN who are not included in this lesson. Have the students research some of the others (and their mutant powers) who are not among the ten used in this lesson.
2. Then have the students decide what racial group(s) those X-men should live among (according to their powers)
   and in what geographic region of the **World** they should live. (Do not include the United States in this activity).

Four:

1. Have students create a story about the X-Men and how they use their mutant powers to help human beings. The story must include apparent geographical items, references, activities, etc.

Five:

1. Have students create their own X-Men characters, including pictures, posters, or clay figures. Then have students write a poem about the exploits of their created character(s).

Evaluation:

1. Use the completed maps and written explanations from the base activity for evaluation.
2. Have each group present their decisions to the class.
3. Upon completion, have students compare and contrast their decisions.
4. Have students develop a bulletin board or hallway display using the completed maps and typed text.

The focus of the evaluation can be:

A. Group cooperation.
B. Correct map information and neatness.
C. Group presentation (public speaking, etc.)
D. Neatness and correctness of the typed text.

E. Creativity in the bulletin board or hallway display.
F. Clarity and logic surrounding the explanation for the decisions made.

NOTE: Even though the work is being done in small groups, each individual student should complete a map and text explanation for evaluation purposes. You may develop your own rubric.

Evaluation of the Extensions:

1. Develop your own rubric for evaluation of the historical events.
2. Develop your own rubric or other type of evaluation for the additional **X-MEN**; their powers and their world locations; the short stories or compositions; and any drawings or sculptures.

NOTE: These lessons can be used in a team teaching situation (Geography, History, Social Studies, Earth Science, Computer Science, Language Arts, Reading, Art).

References:

1. Internet websites:
   A. http://www.census.gov/
   B. http://www.esri.com
   C. http://www.kstrom.net/isk/maps/mapmenu.html
   D. http://hanksville.org/Naresources/indices/Nagaming.html
   E. United States History textbooks.
   F. Other history resources, including the internet.

2. Under: http://www.census.gov/
   A. Go to: "For Teachers".
   B. Then click on "US Teaching Materials"
   C. Then click on "5-8".
   D. Then click on the area called: "Maps" - "American Indian Reservation" This will bring up a map for the Native American Populations of the United States.

3. Under: http://www.kstrom.net/isk/map/mapmenu.html
   A. Scan down to "U.S. Tribes By Region & States (Big GIS effort) Click on "U.S. State Native American Populations **Grade Level:** Middle School

A Time Of Peace: Where Should The X-MEN Live

By: Karen Grimes Cooper

Based on: Marvel Comic Book Characters (Marvel Enterprises & Entertainment, Inc.)

Directions:

1. Use one of the internet websites (http://www.census.com or http://www.esri.com) to get 1990 census maps that display information on the population distribution of the following racial groups:
   A. African Americans/Blacks
   B. American Indians/Eskimos/Aleuts
   C. Asian Americans/Pacific Islanders
   D. European Americans/Whites
   E. Hispanic Americans/Latinos

2. Read the information and geographic clues on each of the X-Men in this lesson and make a group decision as to "Where the X-Men" should live within the United States of America. Try not to place any two X-Men in the same state.

3. Use color pencils to make a map key and color code the map for the states where you have assigned the X-Men and according to the racial group with whom they will reside.

4. In written text, list the X-Men and use the postal abbreviation for their states of residence. Also give a written explanation of your decisions.

5. Prepare a group presentation for the class.

Extension Lessons Directions:

Extension I:

1. Complete research on the racial group assigned to you by your teacher. Look for historical reasons for finding the population patterns that you have found in the 1990 census. You should also use current events in your research.

4. Type a text of your findings.

5. Present your findings to the class.

Extension II:

1. Find out the names and characteristics (mutant powers) of some of the X-Men not used in this lesson.

2. Decided where in the world and among what cultures of the **world** those X-Men should live. Do not include the United States in this extended activity.

3 Develop a written and typed text explaining your reasoning for your decision(s).

Extension III:

1. Create a story about the X-MEN and how they use their mutant powers to help humans. You must include geographical references, features, activities, etc. Be sure to type your final copy.

Extension IV:

1. Create your own X-MEN characters. Include pictures, posters, or clay figures.

2. Write a poem about the adventures of your created characters. Be sure to type your final copy.

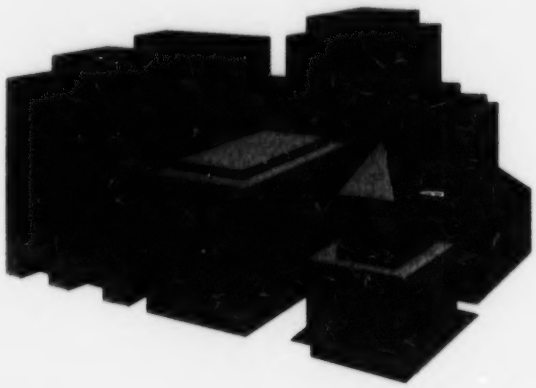
Lesson Sheets

A Time Of Peace: Where Should The X-MEN Live

By Karen Grimes Cooper

Based on: Marvel Comic Book Characters (Marvel Enterprises & Entertainment, Inc.)

Since 1963, it has been known that a group of mutant beings called the X-MEN lived among humans. Because the mutants were "different' from the human beings, many humans sought war against them or to exterminate them because of their special gifts/powers. Many humans were afraid of what they did not understand. However, after years of struggle, the mutant leaders, Professor Xavier (known as Professor X) and Magneto plus human world leaders have signed peace accords agreeing to live together as one. With peace brings the X-MEN's desire to live among the humans and to share their "mutant gifts". In the interest of eliminating racism, the mutants want to live among different racial groups according to where their gifts may be most useful or appreciated. Because the United States has one of the most pluralistic societies, the decision was made to experiment with this concept of X-MEN and humans living together in the United States. It was thought that if they could live in peace within the United States of America, then they could live in peace most anywhere in the world. Now comes the big decision ..... **WHERE SHOULD THE X-MEN LIVE?**



The X-Men Profiles

1. ***PROFESSOR X*** - Professor X has strong and well-developed telepathic powers. He is capable of reading people's minds and controlling their actions. Some of the Native American Gaming Casinos have been experiencing "thief-type" clientele who are not visiting the casinos for the sport. Rather, they are visiting in an attempt to steal enough money to bankrupt these Native American enterprises. The Native Americans reverie the Professor for his leadership abilities. They also welcome the use of his powers to detect the unsavory characters that are trying to bankrupt them.

2. **CYCLOPS** - Cyclops has the power to emit controlled laser blasts from his eyes. His power would be most useful in industry and especially around naval yards. In order to control his power, Cyclops must wear special glasses that mimic an elliptical fold of the eye. As a result, Cyclops may feel very comfortable in the company of people of any Asian descent.

3. **STORM** - Storm has the power to control the weather. Lighting and wind are her specialties. She would best aid human beings in an area where violent storms, such as tornadoes or hurricanes, occur. Curbing the destruction of those types of storms would be a "piece of cake" for her. Storm is the only Black superhero among the X-Men. She would like to work within an area that has a large African American community.

4. **ROGUE** - Rogue has the ability to absorb the life force of human beings and to also absorb the memories and powers of both humans and other mutants. Because of the type of power she has, Rogue would like to be in an environment where she can easily reach out to all types of people in the fields of finance, theater, fashion, and world trade. She also likes the idea of living on an island. While growing up in the south, she learned to speak Spanish and might enjoy living near a large Hispanic/Latino population in the eastern part of the United States.

5. **WOLVERINE** - The United States military experimented on Wolverine. He was given a metal endoskeleton made from a substance called adamantium. This gives him great strength. He also has a keen sense of smell, retractable claws and the ability to heal quickly. The animal for which he was named is found in habitats that range from forested valleys to arctic and alpine tundra. Therefore, Wolverine might be happiest living in a area that lies north of 45 degrees north latitude that also has lots of forests. However, he does not want to live in Canada. He would like to live among people of European decent because he is fond of the "Robin Hood" tale that took place in a European forest called "Sherwood Forest".

6. **JEAN GREY** - Jean has the powers of mental telepathy and telekinesis. When she was a young girl, people often teased her by calling her "Voodoo Girl" because of her ability to move objects with her mind. Jean researched the topic of Voodoo and became comforted in the knowledge that this was an ancient African religion that is often just as misunderstood as she is/was. Jean's powers may best be appreciated by people who are familiar with the voodoo religion and who are very comfortable around it. She would like to live in a U.S. region of the south where this religion is still practiced.

7. **MAGNETO** - Magneto has the ability to control electromagnetic fields. In recent years, activity in the "Bermuda Triangle" has picked-up. More and more, scientists are convinced that the "disappearances" in this area are caused by electromagnetism. The United States government has authorized its Navy and the Coast Guard to begin experiments in this area. Magneto's powers can help control and harness this energy. Magneto's family was destroyed in a concentration camp during the Holocaust in Europe in the early 1940's. Therefore, he thinks that he can also be of help to people whom feel exiled or persecuted because of a political situation(s). In recent years, many people of Hispanic/Latino decent have sought political asylum in the United States. Therefore, he would probably like to live among a Hispanic/Latino group of people like Cuban Americans.

8. **MYSTIQUE** - Mystique has the power to shape shift. She can change herself into a variety of people, animals, and other forms. Some Native American nations, especially those located in the Great Plains region of the United States, believe in shape shifters. They believe that some of their own people have shape-shifting abilities. Mystique would like to live with people who believe that her power is a special one that is shared by humans and mutants alike.

9. **SABERTOOTH** - Sabertooth has the power of enhanced senses and rapid healing ability. He carries his name from the saber tooth tiger of earth's Oligocene to the Pleistocene periods. Though he has the word tiger in his name, he is not really a tiger. However, he is very partial to that part of his name. Sabertooth would like to live near a large Asian population because tigers are indigenous to Asia. He would also like to live in the Mid-western region of the United States, where the bones of two different types of saber tooth tigers have been found.

10. **TOAD** - Toad has extraordinary climbing and leaping abilities. He also uses a sticky mucous that might be useful in homemade medical remedies and charms. Toad often likes to be alone and in an area where he can be free to leap and to scale things. Toad is partial to the eastern part of the United States and may be best suited to an environment where hills and mountains are present. Because he is such a private individual, he would probably be most comfortable among people from a fairly closed society or people who are often isolated by geographic features like mountains. Toad likes to listen to fairytales - especially the European one about the "frog prince". So he might like to live among people of European descent.